International Joint Commission's Review of its Orders of Approval in the St. Croix River Basin

Background

The International Joint Commission (IJC) is considering whether or not to change its Orders of Approval governing the operation of four structures on the St. Croix River between Maine and New Brunswick. (No IJC Order exists for the structure at Woodland, or for structures in the western portion of the basin.) The Orders constrain the operation of those structures, as noted in **Table 1**.

TABLE 1: Requirements of IJC Orders

Structure	Water Level (NGVD)		Minimum Flow
	Maximum	Minimum	
Forest City Dam (East Grand Lake)	434.94 ft 132.57 m	427.94 ft 130.44 m	75 cubic feet per second (cfs) 2.12 cubic meters per second (cms)
Vanceboro Dam (Spednic Lake)	385.86 ft 117.61 m	371.50 ft 113.23 m Oct. 1 - Apr. 30 376.50 ft 117.61 m May 1 - Sept. 30	200 cfs 5.66 cms
Grand Falls Dam	--	203.50 ft 62.027 m	--
Milltown Dam	--	45.00 ft 13.716 m	--

Initiating the Review

At public meetings during the summer of 1992, concerns were raised over fluctuating water levels and flows in the St. Croix River system. In 1993, the IJC established a Steering Committee, consisting of members of its International St. Croix River Board of Control and its International Advisory Board on Pollution Control - St. Croix River, to review the IJC's's St. Croix River Orders of Approval. The attached chart describes these organizations. The IJC asked the Steering Committee to investigate whether a change to the Orders governing water regulation was warranted to address the concerns and, if so, to identify the effects of those changes on current water users and the environment.

Public Involvement

Efforts were made to involve the public in the process of reviewing the Orders. Two sub-groups reported to the Steering Committee. The Stakeholders Group consisted of representatives from over forty groups, including agencies, municipalities, business, and waterway associations. The Stakeholders Group surveyed others in the basin to determine their views and preferences on water management, and appointed an executive board to coordinate with the Steering Committee and the other sub-group. The Working Group developed the work plan, completed technical work required, and prepared a Working

Group Final Report. The two IJC Boards held public meetings annually, where they presented the status of the study and answered questions. The 1997 meeting was held in a workshop format which explored a broad range of basin concerns. The Stakeholders Group and the general public were invited to comment on several iterations of a draft Working Group Final Report.

Analysis and Results

The Stakeholders Group collected and submitted numerous proposals for changes to system water management. The Working Group first modelled each proposal independently. It determined that all but one proposal was unacceptable as submitted, for one of the following two reasons. For some proposals, it was impossible to conform to the suggested changes, regulatory requirements, IJC requirements, and soft controls (non-regulatory preferences currently being accommodated) at all times during the twenty-year period modelled. For other proposals, it was possible to conform to the suggested changes, the various requirements, and soft controls during the twenty-year period modelled, but this could only be achieved by drawing down Spednic Lake so severely that it was apparent the solution would be unacceptable to stakeholders on Spednic Lake. The one acceptable solution simply proposed adding a minimum lake level for Grand Falls Lake. This proposed minimum lake level is already being observed by the owner and operator, Georgia-Pacific Corporation, in its operation of the dam at Grand Falls.

The Working Group then developed a "modified scenario" that combined into one model all the proposals made by stakeholders, regulatory requirements, IJC requirements, and soft controls. The specific targets from individual stakeholder proposals were modified slightly in this combined model in an attempt to increase the chances of success while still addressing stakeholders' underlying concerns. For the structures subject to IJC Orders, this combined model imposed the modified stakeholder constraints listed in **Table 2**. The model also imposed other similar constraints on structures not subject to IJC Orders, including Canoose Dam, Sysladobsis Dam, West Grand Dam, and Clifford Dam.

It was not possible to conform with the package of constraints included in the "modified scenario" combined model during the twenty-year period modelled. The model generated numerous violations of these constraints for a number of years on many lakes. The Steering Committee stated in its report that it felt further changes to the "modified scenario" would not be possible without undermining the reasons why changes were suggested in the first place. In additon, one of the most significant regulatory constraints was a minimum flow requirement at Baring imposed by the U.S. Environmental Protection Agency and the Maine Department of Engironmental Protection. The Steering Committee therefore recommended the following to the IJC in its November 1997 report:

1. Do not change the Orders.
2. Conclude the study for reviewing the Orders.
3. Continue stakeholder input and education through public meetings and workshops with IJC involvement.
4. Perform no further analyses until the 750 cfs minimum flow requirement at Baring is reviewed by the Advisory Board on Pollution Control in conjunction with the U.S. Environmental Protection Agency and the Maine Department of Environmental Protection.

Current Actions

The IJC is accepting comments on the Steering Committee report. Comments should be received by October 23, 1998, at the addresses listed below. Copies of the report can be obtained by writing to the IJC. Copies are also available at the Calais City Building, the Town of Danforth Office, the McAdam Town Office, the St. Stephen City Office, at the offices of the St. Croix International Waterway

Commission in St. Stephen, and on the IJC's website (www.ijc.org). IJC Commissioners plan to attend the 1998 annual public meeting of its International St. Croix River Board of Control and its International Advisory Board on Pollution Control - St. Croix River on August 26 at 7:00 p.m. Eastern Daylight Time (U.S.) at the Danforth Town Hall, which will provide another forum for public comment. The IJC has also requested its International Advisory Board on Pollution Control to review the 750 cfs minimum flow requirement at Baring, in conjunction with the U.S. Environmental Protection Agency and the Maine Department of Environmental Protection, as recommended by the Steering Committee.

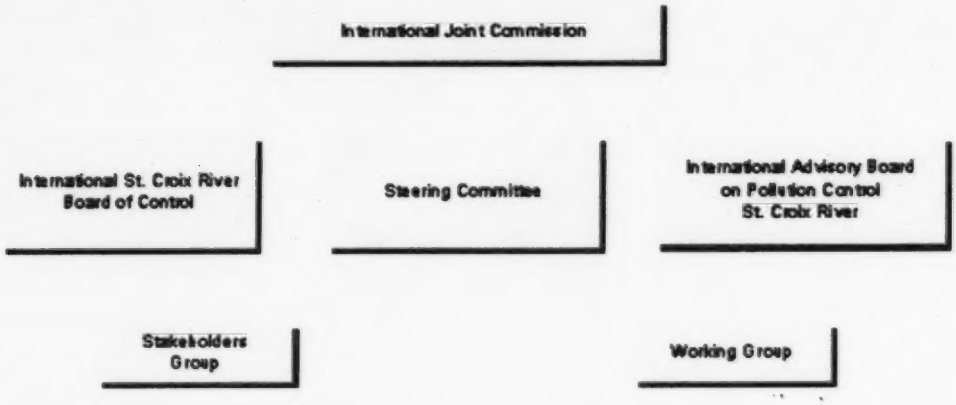
TABLE 2: Modified Stakeholders' Constraints included in the "Modified Scenario"

Structure	Water Level (NGVD)		Minimum Flow	Other
	Maximum	Minimum		
Forest City Dam	434.60 ft 132.46 m Oct. 1 - June 9 433.09 ft 132.00 m June 10 - Sept. 30	429.94 ft 131.05 m Sept. 11 - May 31 431.94 ft 131.65 m June 1 - Sept. 10	75 cfs 2.12 cms June 1 - Dec. 5 106 cfs 3.00 cms Dec. 5 - June 1	• Gates should be closed or opened to change flow by 25% at 4-hour intervals • Drawdown not to exceed 2 ft (0.61 m) from July 15 - Oct. 15 • Drawdowns should not exceed 3 ft (0.92 m) from Oct. 15 - July 15 • Drawdown limit of 0.0 ft/m below Oct. 15 level from Oct. 15 - April 1 • Drawdown limit of 1.0 ft (0.30 m) below June 10 level from June 10 - July 15
Vanceboro Dam	384.86 ft 117.31 m	375.67 ft 114.50 m Oct. 1 - April 30 378.50 ft 115.37 m May 1 - Sept. 30	317.8 cfs 9.00 cms June 1 - Dec. 5 388.5 cfs 11.00 cms Dec. 5 - June 1 200 cfs[1] 5.66 cms[1] 208.5 cfs[1] 25.90 cms[1] June 1 - Oct. 15	• Drawdown should not exceed 2 ft (0.61 m) from July 15 - Oct. 15 • Drawdown should not exceed 3 ft (0.92 m) from Oct. 15 - July 15 • Drawdown limit of 1 ft (0.30 m) below May 25 level from May 25 - July 1 • Gates should be closed to reduce flow by 25% at 4-hr intervals
Grand Falls Dam	203.5 ft 62.03 m	202.1 ft 61.60 m	918 cfs 26.00 cms June 1 - Aug. 31	• Drawdown should not exceed 2 ft (0.61 m) from July 15 - Oct. 15 • Drawdown should not exceed 3 ft (0.92 m) from Oct. 15 - July 15 • Drawdown limit of 1 ft (0.30 m) below June 10 level from June 10 -

			750 cfs 21.20 cms Sept. 1 - May 31	July 15

[1]Model attempts to avoid less restrictive constraint if more restrictive constraint is violated.

Organizations Involved in Review


International Joint Commission
International St. Croix River Board of Control
Steering Committee
International Advisory Board on Pollution Control St. Croix River
Stakeholders Group
Working Group

International Joint Commission: Issued Orders of Approval that place constraints on the operation of four dams on the St. Croix River. Advises the Governments of the United States and Canada on water quality issues affecting the St. Croix River.

International St. Croix River Board of Control: Permanent Board appointed by the IJC that oversees operations of four dams on the St. Croix River to insure compliance with the IJC Orders of Approval.

International Advisory Board on Pollution Control -- St. Croix River: Permanent Board appointed by the IJC that advises the IJC on matters affecting the water quality of the St. Croix River.

Steering Committee: Group appointed by the IJC to review its Orders of Approval for four dams on the St. Croix River. Made up of members of the IJC's two permanent Boards.

Stakeholders Group: Group of over 40 agencies, municipalities, businesses and waterway associations that surveyed water users in the St. Croix River and advised the Working Group and Steering Committee of user preferences.

Working Group: Developed the work plan and completed the technical work for the review of the IJC Orders of Approval.

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